

Title: Gravitational-Wave Astronomy

Abstract:

Einstein's General Theory of Relativity is our best classical description of gravity, and informs modern astronomy and astrophysics at all scales: stellar, galactic, and cosmological. Among its surprising predictions is the existence of gravitational waves -- ripples in space-time that carry energy and momentum away from strongly interacting gravitating sources. In my talk, I will give an overview of the properties of this radiation, recent breakthroughs in computational physics allowing us to calculate the waveforms from galactic mergers, and the prospect of direct observation with interferometric detectors such as LIGO and LISA.

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